Meeting Summary

eHealth Technical Advisory Committee
December 29, 2009 12:00-1:30PM

Please refer to the meeting slides for additional information.

TAC Survey (Slide 3):

Walter thanked the group for taking the time to fill out the survey on meaningful use and HIE capabilities. 15 out of 25 participants responded to the survey from a variety of organization types (see slide for breakdown). A preliminary impression of the responses reviewed so far is that there exists a high degree of variability in existing HIE capabilities for meaningful use. Some organizations are quite far along in having the capabilities necessary to meet the HIE requirements of meaningful use, and have little need for additional resources in the form of a statewide HIE infrastructure. Other organizations will be relying on external resources to enable HIE for them; such organizations may clearly benefit from a statewide HIE infrastructure. The survey results reflect the diversity of HIE capabilities that exist in California and will help to inform the design of the technical architecture such that the needs of organizations for HIE are met while at the same time not disrupting current capabilities that are in place. A report of the survey results will be provided to the committee in the near future.

Discussion:

- In response to a question, Walter clarified that the survey is specific to the work of the TAC/TWG and is not part of other data gathering efforts, although the survey was shared with the other workgroups for communication purposes.
- A suggestion was made by Mike Minear to gather information about the specific vendors and technologies being used by various stakeholders could help to inform the design of the architecture, and might help to limit redundant interfacing efforts. Bill Spooner agreed, adding that everyone would benefit from knowing what each other's plans are in terms of approaches, tools, and extent to which each organization will interact with the larger community.
- Walter affirmed that coming to an understanding of how specific (and sometimes proprietary) technical approaches fit into the statewide technical architecture would become important downstream. One question that will need to be addressed is the degree to which very specific technologies or connections to those technologies should be specified in the architecture, and how providers not using those technologies can be supported to connect to other providers and achieve meaningful use.
- Lucia Savage voiced a concern of achieving the proper balance in the current effort between supporting entrepreneurial activity represented by specific approaches that individual organizations are pursuing, versus determining areas where the state could leverage efficiencies of scale (e.g., master patient indices, single source purchasing of SureScripts, etc.). Walter replied that the TWG had been discussing this in its meetings, and that the model he was about to present attempts to address this issue.

California Environment for HIE: Terminology (Slide 4):

Walter then turned to a discussion of the environment for health information exchange in California. Some relevant terminology was defined, including:

- C*ommunicant* – a person, organization or information system that is the original sender of ultimate recipient of an exchange of health information. Also known as an "actor" in workflow discussions, or "principal" in discussions of security and authentication.
- *Enterprise* – a discrete business entity that controls in top-down fashion the selection, purchase, and management of its HIT resources and their interoperability. In distinction to a communicant, an enterprise may already control communications between communicants within itself. Some of the survey results indicate that in many cases, enterprises are already providing HIE services to their constituents through internal HIT resources. Of note, a communicant may be an enterprise or it may be part of an enterprise.
- *HIO* – an organization that oversees and governs certain exchanges of health-related information among participating enterprises within a certain region and/or for a certain domain.

Discussion:

- John Mattison made the point that PHRs were different from other entities on the list of example enterprises (shown on Slide 4). The reason for this is that it is yet to be determined to what extent data integrity, data accuracy, and provenance can be asserted for the information that originates from a PHR entity. John made a suggestion to consider PHRs as either a subtype or different type of entity than the others that have laws that bind them to certain data integrity and provenance standards. From discussion, a clarifying distinction was made between tethered PHRs, which do have established data integrity/data accuracy/provenance standards, and untethered PHRs (such as Google Health, Microsoft HealthVault, and RevolutionHealth) which do not.
- Lucia Savage wanted to understand whether the proposed definition of an HIO had any bearing on potential roles in the context of making prescriptive technology decisions. Walter clarified that the proposed definition for the purposes of the model did not require or prohibit an HIO from helping participants in its jurisdiction to acquire information technology, and that this definition distinguishes an HIO from an organization that represents a single business entity and has much more top-down, centralized control of HIT resources.

Diagrammatic Representation of California Environment for HIE (Slide 5):

Walter then depicted a graphical model of the California environment for HIE. While some communicants in the model are completely independent (such as small office practices or independent pharmacies), other communicants are part of enterprises (such as IDNs or pharmacy chains), and still other communicants are part of HIOs. The need is for communicants to communicate with each other in the context of meaningful use. Above all of these entities in the cloud is the statewide HIE infrastructure, the design of which is the committee's current goal. The question to be answered is, what infrastructure components do not exist today that need to be created in order to support

communication between the various communicants (for the purposes of achieving meaningful use), regardless of their size, location, or current capabilities?

California Environment for HIE – E-Prescribing Example (Slide 6):

The state HIE infrastructure will need to support various communication paths of HIE activity, including the following examples:

1. Two communicants using the state HIE infrastructure to share information with one another, e.g. a small practice and an independent pharmacy.
2. An independent communicant and a communicant within an enterprise, e.g. a small practice and a store within a pharmacy chain. Here, the infrastructure supports communication between the independent communicant and the enterprise (red), while the enterprise directs the communication to the individual store level. Intra-enterprise communication (green) need not utilize the statewide HIE infrastructure.
3. A communicant within an enterprise within an HIO, and an enterprise. The HIE infrastructure supports communication between the HIO and the enterprise, while communication with the clinic itself is handled by the internal architectures of the IDN and HIO.
4. A slight variation of (3) involves the same parties, but this time the IDN bypasses the HIO and connects to the statewide infrastructure directly in order to communicate with the enterprise of interest. This scenario may occur if, for instance, the HIO does not support certain functions, such as e-prescribing.
5. Another variation of same again involves the identical parties, with the clinic bypassing both the IDN and HIO to connect directly to the state HIE infrastructure in order to communicate with the enterprise of interest.

Discussion:

- One possibility mentioned by Walter is that part of the infrastructure could include an alternative to SureScripts for pharmacies that cannot or are not willing to use the SureScripts network to receive electronic prescriptions. There were different reactions to this from participants. Concerns raised were that (1) organizations would be required to develop an additional interface beyond SureScripts to utilize such a service, and (2) replacing an infrastructure that is in place and working would not be practical. On the other hand, Laura Landry was supportive of an alternative to SureScripts due to a particular concern about the cost of SureScripts associated with use of the service by hospitals.
- Lucia suggested that another option, being pursued in Rhode Island, would be for the state to negotiate a better rate with SureScripts as part of the infrastructure. Bill Spooner thought that this was a good idea. Walter replied that there were many solutions that would be consistent with the architecture being presented, including one where SureScripts was part of the state HIE infrastructure in the sense that services were subsidized or otherwise purchased through the state.
- Drawing an analogy with airline scheduling where Sabre became the de facto scheduling system, John Mattison indicated that a system like Sabre should not be envisioned as the ultimate

solution. Where vendors are used, they should be made to explicitly and conspicuously support interoperability standards at the core of their functionality. He believed that this was important to drive the vendor community away from proprietary implementation of interoperability standards, and to also ensure that customers do not get locked into a particular vendor solution.

- An important question then posed to the group is whether an organization (e.g., an IDN or HIO) should be required to use only vendors that are compliant with all of the standards of the state HIE infrastructure for information exchange occurring *within* the organization only . Two main branches of thought emerged from the discussion.
    1. Option 1: The requirement can be addressed as *a dictate of the state*:
        - The question becomes more complicated and reaches beyond technical issues. Lucia Savage mentioned that Cal PSAB has been struggling with a similar question for months with respect to the reach of privacy guidelines. Do such guidelines only impact how two communicants exchange information, or do they actually have reach into the internal systems of enterprises?
        - John Mattison voiced his view that it is not within the purview of the government (whether state or federal) to intervene if an organization chooses a vendor that does not comply with standards solely for internal communications, since that is the institution's business. Once there is entity-to-entity communication, however, such a decision places every downstream consumer at risk unless interoperability standards pertain, and thus the government should have a very heavy hand in ensuring that entity-to-entity communication is conformant with interoperability standards. That said, KP is very loathe to accept a long-term solution for itself that proposes conformance only for entity-to-entity communication but not internal communication; the organization desires the same level of interoperability inside the organization as it has externally. In his view, doing so protects the interests of the patients and protects the interests of the institution to reduce their total cost of ownership. However, internal communications should nevertheless remain a business decision for each institution.
        - In response to Jeff Guterman's request for clarity around what constitutes an institution, it was suggested that a definition of "enterprise" be developed that includes explicit mention of governance, financial arrangements, and provider practice patterns.
        - Scott Joslyn asked what standing the state has to prescribe how two non-related entities perform HIE. Would part of the recommended state HIE infrastructure include regulation prescribing how entity-to-entity communication would be conducted? Walter clarified that the state has a regulatory function which it has used in the past, e.g. prohibiting through state regulation the exchange of social security numbers in transactions. The architecture would acknowledge that the state could undertake regulation if necessary, but it is unlikely that the state would perform such regulation unless deemed absolutely necessary.

2. The requirement can be made implicit within the design of the state HIE infrastructure.
    - In distinction to what was suggested above, Bill Spooner suggested that perhaps what needs to be defined here is what the state HIE infrastructure is intending to support. The answer may be that the infrastructure intends to support standards-based vs. proprietary data exchange, such that if a provider or enterprise wants to avail itself of the statewide infrastructure, it needs to do so using standards-based technologies. Several participants agreed with this approach. Walter indicated that this is how the TWG has been approaching the issue and the approach that will likely be proposed in the strawman architecture.

<u>California Environment for HIE – Clinical Summary Sharing Example (Slide 7):</u>
Another example is the sharing of a hospital discharge summary. The following alternative information flows were described as possible scenarios that would be supported under the proposed model:

1. Independent hospital sending summary to independent practice, using the state HIE infrastructure to communicate.
2. Hospital within an IDN sending summary to independent practice, using the HIT infrastructure of the IDN which then communicates through the state HIE infrastructure to practices not in the IDN.
3. Communication of a summary from a hospital to a clinic in the same IDN, in which case the state HIE infrastructure would not be accessed.
4. A hospital in a hospital chain, which is a member of an HIO, communicates with a practice belonging to another IDN that is not a member of the HIO. Here, data flows through the internal infrastructure of the hospital chain up to the HIO, which then connects to the recipient IDN through the state HIE infrastructure. The recipient IDN sends the information to the appropriate clinic communicant through its own system.
5. Similar to (4) above, except the recipient practice is a participant of the HIO. In this case, the state HIE infrastructure would not be needed, and information can flow from the hospital through the hospital chain's HIT resources and then through the HIO.
6. Similar to (5) above, except the hospital bypasses the hospital chain and communicates with the practice using HIO services.
7. A hospital in one HIO communicates with a practice in a second HIO using the state HIE infrastructure.
8. Similar to (7), except the hospital's HIO communicates directly with the practice using the state HIE infrastructure.

Discussion:
In similar fashion to the earlier discussion on requiring enterprises to conform to interoperability standards, the question was posed whether HIOs should be required to communicate via standards designated by the state HIE infrastructure. The following additional viewpoints were expressed by various committee members:

- Having a mechanism to ensure that new investments made by HIOs are standards based will be important to reduce the amount of fragmentation that exists today and will help providers avoid having to support multiple interfaces and data formats (e.g., competing discharge summary formats) in order to exchange information.
- Requiring HIOs to be internally compliant with state-supported interoperability standards is important to reduce the total cost of healthcare delivery and minimize the overhead costs of transformations between proprietary and standard data standards.
- Setting a level playing field across all participating organizations will be important so that patients' expectations are the same across the system.
- Requiring HIOs to adhere to national standards for health information exchange within the HIO may compromise the efficiency of local exchange.
- Creating requirements that HIOs adhere to state-supported interoperability standards may result in organizations that are *de facto* HIOs attempting to skirt regulations by making sure that they do not fit the definition of an HIO. Thus, any such regulation will require a careful, explicit, and specific definition of what an HIO is and is not.
- An approach to incent the adoption of interoperability standards over time to gradually displace legacy systems via the state HIE infrastructure is much preferred over a regulatory approach that is not practical to implement. The historical evolution of the Internet and eventual broad adoption of TCP/IP is an example of a voluntary, market-based approach to standards adoption.
- The state HIE infrastructure should be designed in such a way that catalyzes adoption of interoperability standards while not strictly requiring their use in all cases.

<u>HIE Core Services (Slide 8):</u>

Based on the presented model, Walter introduced several straw HIE core services for consideration.

1. Registry (Slide 9). This would contain all communicants in the state who are reachable via the state HIE infrastructure, allow lookup of HIE communicants, be maintained by certified vendors, and exist as a highly secure resource accessible only by other registered communicants. For each communicant, the registry would contain a unique ID, name, mailing address, and relevant professional information. Each communicant would need to be provisioned/credentialed by an authorized registrar.
2. Authentication (Slide 10). User authentication would be handled by a group of certified services called by applications for various HIE push and pull operations. The services would generate and return an authentication assertion for presentation to other communicants or services. Services may include support for different levels (strength) of authentication, depending on what is required by data trading partners. The level of authentication would be indicated in the assertion.
3. Routing (Slide 11). This state-certified service would determine the destination network address of an HIE transaction based on rules specified by communicant and transaction-type. Routing rules would be populated by communicants or their designated agents. Enterprise or HIO addresses could be specified for communicants that are part of these larger entities, in which

case the enterprise/HIO is responsible for proper routing to the communicant after receipt. Independent communicants can specify their own network address.

4. Data standards (Slide 12). These must be required for certain transactions involving the state HIE infrastructure, would define the payload of the transaction, and would be specified by transaction type.
5. Operating Rules (Slide 13). Every communicant reachable via the state HIE must have both a registry and routing entry. A communicant's ability/willingness to engage in a specific transaction via the state HIE infrastructure should be independent of ability/willingness to engage in other types of transactions.

The intent of the proposed model is to define an architecture and core services that would accommodate existing solutions within enterprises and HIOs, while at the same time creating an enabling HIE across enterprises, HIOs,and smaller independent entities for a variety of transactions.

Discussion:

Initial feedback from participants about the proposed core services model included the following:

- How will HIE for patients from outside California being treated by institutions inside the state be handled? Will it be necessary for there to be 50 state-level HIOs?
- Mike Minear asked to what extent the state was going to build its own solutions versus leveraging ones already existing to avoid duplication of efforts. Much of what is included in the model has coverage in other efforts. For example, CONNECT provides an open source gateway to the NHIN and is also being used by federal agencies to connect with one another. For authentication, the federal government has adopted certain in-place technologies such as InCommon and Shibboleth.
- Lucia Savage felt that the state HIE infrastructure could include many services beyond the core services where efficiencies of scale could be exploited. Certain areas of information may be more efficiently supplied through the statewide architecture—an example of this may be eligibility information. Does the state have a role in supplying certain kinds of information or services utilizing efficiencies of scale beyond the core services in the model?
- Bill Spooner raised the issue of cost-effectiveness as a guiding principle in the design moving forward. Since issues of technical design and financial viability were being considered in parallel by the TAC and the Finance Committee, the suggestion was made to coordinate with the Finance Committee on issues of cost. One potential mechanism for communication is through the Operations Team, which has begun its coordinating function between the various committees.
- A question was raised about where information regarding interface standards would go in the model. Walter suggested that this might be a separate dimension of routing, in which particular protocol(s) would be defined for various types of transactions.

<u>General Comments:</u>

- Laura Landry acknowledged the limited time in meetings to discuss comments from the group, and voiced that it would be beneficial for stakeholders to discuss issues around potential services that they would like to see the state provide. Given limitations on time and infrequency of meetings, the TAC discussion list was identified as the appropriate place to have such discussions if not brought up during meetings.

Next Steps:

1. Walter will bring the feedback received from the TAC to the work of the TWG.
2. Participants are encouraged to continue discussions on the email discussion list.
3. The next TAC meeting will be held on 1/12/10.

Summary of Key Questions/Issues/Decision Points:

- Identification of the specific technologies and vendor solutions that stakeholders are planning to use in the future may be a helpful step in appropriately designing the state architecture, inasmuch as the infrastructure needs to specify articulation with specific technologies.
- Untethered PHR systems are distinct from other enterprises due to issues around data integrity, data accuracy, and provenance.
- While there appears to be general agreement that standardization across organizations is a long-term goal, there is a diversity of opinion around the issue of whether to require enterprises and/or HIOs to internally conform to established interoperability standards. One opinion supports the state's regulatory function as a way to ensure conformance with standards. Another view argues that it will be sufficient to design a state HIE architecture that explicitly supports certain standards as its own mandatory interface, although use of the architecture (and hence the standards) is voluntary. A third viewpoint favors incentives to standardize over time.
- Regulatory mechanisms of standardization will require explicit and specific definitions of "enterprise" and "HIO" that involve concepts such as governance, financial arrangements, and provider practice patterns.
- A key discussion topic for the committee is the Identification of specific shared services beyond core services that would be helpful to provide at the state level. Relevant to this discussion is the principle of cost-effectiveness.

Members Present

Name	Title and Organization
Rebecca Armato	Huntington Hospital
Zan Calhoun	CIO, Healthcare Partners
Jeff Guterman	Medical Director, LA County Dept. of Health Services
Scott Joslyn	CIO, Memorial Care
David Joyner	SVP, Network mgmt, Blue Shield of California
Laura Landry	Executive Director, Long Beach Network for Health
Ronald Leeruangsri	County of Los Angeles Chief Executive Office
Mason Matthews	County of Los Angeles Chief Executive Office
John Mattison	CMIO, Southern California Region Kaiser Permanente
Greg McGovern	CTO, Adventist Health
Michael Minear	CIO, UC Davis Health System
Glen Moy	Sr. Program Officer, California Health Care Foundation
Ray Otake	CIO, Community Health Center Network
Ray Parris	CIO, Golden Valley Health Center
Christy Quinlan	Chief Deputy Director, CA Office of the State Information Officer (OCIO)
Lucia Savage	Assoc. General Counsel, United Health Care
Linette Scott	Deputy Director, Department of Public Health
Bill Spooner	CIO, Sharp Healthcare
Tom Williams	Executive Director, Integrated Healthcare Association

Staff Present

Name
Walter Sujansky
Peter Hung
Joseph Ray